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such cases the branches are usually short, and are arranged alternately along the stem. The terminal bud is apparently neither injured nor destroyed. (*d*) Palms that are usually soboliferous (producing suckers at the base) are rarely branched at or near the apex. And, lastly, (*e*) no instance appears to be so far recorded of a monocarpic palm with a branched stem.

[*Note added.*—In a “Narrative of an Expedition across Melville Island, north of Port Darwin, Australia” (Trans. Roy. Soc. South Australia, vol. xv. p. 117), Mr. Maurice Holtze writes:—“A botanical novelty which I would have liked very much to have taken with me was found in the shape of a *Livistonia humilis* with four distinct branches.” This record is interesting as adding another genus to those already mentioned in which branched palms have been observed. This is apparently the only instance recorded of a branched palm in Australia.—D. M.]

Observations on a Botanical Collection made by Mr. A. E. Pratt in Western China, with Descriptions of some new Chinese Plants from various Collections. By W. BOTTING HEMSLEY, F.R.S., A.L.S.

[Read 21st April, 1892.]

(PLATES XXIX.—XXXIII.)

WHEN the publication of an enumeration of all the plants known from China was commenced in this Society's Journal (vol. xxiii.) in 1886, we knew almost nothing (in this country, at least) of the botany of the Central and Western Provinces. It is true that Mr. Franchet had already published the first part of his ‘*Plantæ Davidianæ*’; but that contained a comparatively small number of novelties and among them no new genera. Since then, owing to the stimulus given by the publication of the “Enumeration,” very large collections have been made by Dr. A. Henry and others, chiefly in the provinces of Hupeh and Szechuen, and transmitted to Kew. The Reverend E. Faber ascended Mount Omei, an isolated elevation on the Min river, upwards of 11,000 feet high, and botanized it, the result being a large number of novelties, including about fifteen ferns. Several other gentlemen, chiefly missionaries and members of the consular service, have sent smaller collections of dried plants to Kew. But it is not my intention to enter into

particulars respecting these collections, though it seemed desirable to allude to them, because I shall have occasion to mention them in some comparisons with Mr. Pratt's collection.

In 1889 and 1890 Mr. Pratt travelled in Western China close on the borders of Eastern Tibet, mainly for the purpose of collecting Zoological specimens. Fortunately, however, he was induced by Dr. Henry to engage a native (whom Dr. Henry had trained to dry plants) to assist him in making a botanical collection.

It is of this collection I would say a few words, as a sort of preface to the descriptions of the novelties. The collection was made chiefly in the neighbourhood of Tachienlu, at elevations of 9000 to 13,500 feet. Tachienlu is a town near the frontier, situated in about 30° N. lat. and $102^{\circ} 15'$ E. long., at an elevation of 8350 feet. Full particulars of this region are given in Mr. Colborne Baber's interesting narrative of his exploration of the region, in the first volume of the Supplemental Papers of the Royal Geographical Society, and in Mr. Pratt's account of his own journeys in the thirteenth volume of the Proceedings of the same Society.

I have not yet finished working out Mr. Pratt's collection, but I estimate that it contains at least 500 species, mostly represented by numerous admirably selected specimens, as may be judged from the small selection I am able, through the kindness of the Director of Kew, to exhibit here this evening. The flora of the mountains of Western China abounds in showy herbaceous plants, equalling, if not surpassing, the richest districts of the Himalayan region, of which indeed it is a continuation. As in the Eastern Himalayas, every valley has its peculiar species. Roughly speaking, I should say that the collection contains about 150 new species, of which, however, at least a third were also collected by Prince Henry of Orleans, who arrived with Mr. Bonvalot at Tachienlu during Mr. Pratt's stay there. These were published last year by Professor Bureau and Mr. Franchet in the 'Journal de Botanique'; and through the kindness of these gentlemen and the personal assistance of the latter, I have been able to compare the novelties of the two collections. This was a great advantage, because the Prince collected no duplicates. With all this wealth of new species there is not a single new genus, whereas Dr. Henry and Mr. Faber between them discovered about twenty-five new

genera, but they collected at lower elevations. It is a noteworthy fact, that above certain elevations and beyond certain latitudes, varying in different parts of the zone, the generic composition of the northern flora is very uniform throughout. In other words, the peculiar genera of the several regions are found at lower elevations and in lower latitudes; and at great elevations, even in low latitudes, local genera are almost unknown. Among the genera represented by several or many species are:—*Clematis*, *Anemone*, *Cardamine*, *Corydalis*, *Hypericum*, *Rubus*, *Potentilla*, *Rosa*, *Saxifraga*, *Ribes*, *Sedum*, *Lonicera*, *Senecio*, *Saussurea*, *Primula*, *Lysimachia*, *Rhododendron*, *Gentiana*, *Pedicularis*, and *Cypripedium*.

In addition to new species of essentially Himalayan genera there are many Himalayan species, as:—*Clematis montana*, *Anemone rivularis*, *Caltha scaposa*, *Decaisnea insignis*, *Corydalis ophiocarpa*, *Stachyurus himalaicus*, *Hedysarum sikkimense*, *Maddenia himalaica*, *Cyananthus incanus*, *Cypripedium tibeticum*, *Paris polyphylla*, and *Aletris nepalensis*.

Not a few Japanese species extend to the Western provinces of China. Familiar examples are:—*Anemone japonica*, *Euptelea polyandra*, *Corylopsis spicata*, *Primula japonica*, *Habenaria japonica*, and *Smilacina japonica*. Among the ground orchids three are North-American, namely:—*Cypripedium arietinum*, *C. spectabile*, and *Epipactis gigantea*.

It is remarkable that out of about twenty ground orchids only two are local, and most of the others have a wide range, four being British. They include six species of *Cypripedium*.

Nevertheless, as already observed, the proportion of local species in the collection as a whole is large. Associated with them are the following British plants:—*Caltha palustris*, *Actæa spicata*, *Malva sylvestris*, *Hypericum perforatum*, *Oxalis Acetosella*, *Geranium Robertianum*, *Lotus corniculatus*, *Lathyrus pratensis*, *Potentilla fruticosa*, *Agrimonia Eupatoria*, *Pyrus Aucuparia*, *Epilobium angustifolium*, *Circea alpina*, *Cephalanthera ensifolia*, *Gymnadenia conopsea*, and *Habenaria chlorantha*.

This does not exhaust the number of British plants in the collection, the list being given merely as a sample. Very few ferns were collected, but there is one new *Adiantum* among them.

With regard to the novelties I need say no more; but some idea of the richness of the flora of Central and Western China may be gathered from the following figures. Taking half-a-dozen

herbaceous genera I find that the known Chinese species of *Pedicularis* number about 100, *Gentiana* is represented by 65 species, *Senecio*, *Saussurea*, and *Primula* each by 50, and *Lysimachia* by 40. Taking in the same manner half-a-dozen woody genera, *Rhododendron* has 70 species, *Rubus* 50, *Lonicera* 40, *Viburnum* and *Vitis* 30 each, and *Euonymus* 20.

I may add that a very large proportion of these species have been collected in the provinces of Hupeh, Szechuen, and Yunnan, and further that only certain districts of these provinces have been fully explored.

Many other interesting facts have come to light in this connection, but I must reserve them for a more detailed examination of the flora.

I am indebted to Mr. Rolfe for the descriptions of the Orchids, to Mr. N. E. Brown for those of the Aroids, and to Mr. J. G. Baker for that of the Adiantum.

DESCRIPTIONS OF NEW SPECIES.

5299 ***Trollius ranunculoides*, Hemsl.**

Species facie *Ranunculi bulbosi*, sed scapis semper unifloris.

Herba perennis, scaposa, undique glabra, 6-9 poll. alta, scapis nudis unifloris. *Folia* petiolata, orbicularia, vix 1 poll. diametro, palmatim 3-5-lobata, lobis trifidis simul acute denticulatis, petiolo circiter bipollicari. *Flores* 1-1½ poll. diametro, erecti, flavi; sepala sæpius 5, lata, orbiculari-spatulata, venosa; petala sæpius 10, clavata, apice majus incrassata, aurantiaca, staminibus breviora; stamina numerosissima; ovaria circiter 12, et circiter 12-ovulata. *Folliculi* maturi non visi.

Pratt, 560*.

4675 ***Delphinium* (§ *Delphinastrum*) *pachycentrum*, Hemsl.**

Ex affinitate *D. dasyanthi*, sed robustius racemis densioribus calcari longiore obtuso fere cylindrico sepalis obtusis.

Herba perennis, erecta, fere undique puberula, caulibus simplicibus crassis circiter pedibus. *Folia* radicalia non visa, caulina conferta, omnia distincte graciliterque petiolata, crassiuscula, circumscriptione cordato-rotundata, 1½-3 poll. diametro, sæpius palmatim 5-partita, segmentis subtrifidis simul irregulariter

* As all of Mr. Pratt's plants have the same general label, namely, "Western Szechuen and Tibetan Frontier: chiefly near Tachienlu at 9000 to 13,500 feet," it is unnecessary to cite any more than the number.

pluri-lobulatis, lobulis parvis oblongis obtusiusculis; petiolus 1-2-pollicaris. *Flores* 12-14 lineas longi, cærulei, petalis apice albis, sericeo-pubescentes, dense breviterque racemosi, fere horizontales, pedicellis quam flores demum longioribus, bracteis bracteolisque angustissimis; sepalum posticum longe crasseque calcaratum, calcari leviter curvato, limbo obliquo brevissimo; sepala reliqua paullo longiora, anguste oblonga; petala 4, sepala æquantia, fere glabra, 2 anteriora latiora, graciliter unguiculata, parce pilosula; stamina glabra, filamentis dilatatis arcte conniventibus; ovaria 3, dense pubescentia. *Folliculi* maturi non visi.

Pratt, 462.

This species is near *D. dasyanthum*, Kar. et Kir., differing in robust habit, cutting of the leaves, and floral characters.

544 **Berberis** (§ **Euberberis**) *polyantha*, *Hemsl.*

Species ex affinitate *B. integrifoliæ* sed foliis plus minusve aculeato-denticulatis floribus fasciculatim racemoso-paniculatis.

Frutex ramis elongatis graciliusculis paucisponsis. *Folia* crassa, coriacea, persistentia? dense fasciculata, breviter petiolata vel subsessilia, obovato-spathulata, 9-18 lineas longa, apice rotundata, deorsum attenuata, margine pauci-aculeolata, supra nitida, subtus pallidiora, venis prominenter reticulatis. *Paniculæ* densæ, 2-4 poll. longæ. *Flores* flavi, inter minores, breviter pedicellati. *Bacca* ignota.

Pratt, 80, 206, 704.

532 **Corydalis** *cheilanthifolia*, *Hemsl.*

C. aduncæ similis sed scaposa foliis majus dissectis floribus calcarari sursum curvato.

Herba perennis, glabra, radice fibrosa. *Folia* erecta, longe petiolata, membranacea, circumscriptione lanceolata, 4-10 poll. longa, bipinnatisecta, segmentis ultimis usque ad 13 parvis 2-4 lineas longis sæpius 3-5-dentatis interdum integris. *Scapi* erecti, folia æquantia vel superantes, pauciflori, laxiflori, bracteis linearibus acutis integris pedicellos æquantibus. *Flores* parvi, 6-8 lineas longi, angusti, calcari lamina dimidio breviora; sepala e basi lata acuminata, obscure denticulata; petala exteriora vix cucullata, interiora longe unguiculata; antheræ supra stigma cohærentes. *Capsula* elongata, moniliformis, circiter pollicaris sed matura non visa.

Hupeh: South Patung, *Dr. A. Henry*, 3723, 5399.

5424 **Cardamine stenoloba**, *Hemsl.*

Pergracilis, caulibus flexuosis foliis dimorphis caulinis superioribus distanter alte pinnatisectis segmentis angustissimis.

Herba annua? erecta, circiter semipedalis, undique glabra, caulibus sæpius simplicibus. *Folia* radicalia (pauca tantum visa) pinnata, 5-7-foliolata, gracillime petiolata; foliola orbicularia, vix 2 lineas diametro, breviter petiolulata; folia caulina 5-7-lobata, 1-1½ poll. longa, superiorum segmentis rhachidisque fere subulatis, inferiorum segmentis paullo latioribus. *Flores* pauci, laxe racemosi, circiter 3 lineas diametro; sepala ovalia, albo-marginata, quam petala triplo breviora; petala late spathulata. *Siliqua* matura non visa sed ut videtur gracillima, demum patens vel reflexa.

Szechuen: without locality, *Dr. A. Henry*, 8724; *Pratt*, 352.

5425 **Braya sinensis**, *Hemsl.* (Plate XXIX.)

Acaulis, radice simplici crassa fusiformi, foliis integris paucidentatis vel pinnatifidis, pedunculis folia æquantibus vel excedentibus.

Herba biennis? 2-3 poll. alta, omnino glabra. *Folia* rosulata, numerosissima, angusta vel angustissima. *Pedunculi* nudi, uniflori. *Flores* 6-8 lineas diametro; sepala basi æqualia, ovalia, obtusissima, quam petala dimidio breviora, margine membranacea alba; petala spatulata, venosa; filamenta dilatata, glabra; ovarium 1-loculare, circiter 12-ovulatum, stylo crasso brevi.

Pratt, 746, 858.

Mr. A. Franchet, to whom I showed this plant, was disposed to regard it as a luxuriant state of *B. uniflora*, Hook. f. & Thoms., but on comparing it with the type of that species I find there are considerable differences, though they are certainly closely allied. *B. uniflora* has not only much smaller almost linear leaves and still shorter scapes, but it is a densely cæspitose plant, whilst *B. sinensis* is invariably unbranched.

1649 **Hypericum Pratii**, *Hemsl.*

Species *H. chinensi* valde affinis a quo differt foliis ovato-cordatis sessilibus amplexicaulibus, floribus minoribus laxè dichotomo-cymosis.

Szechuen: Min river, *Rev. E. Faber*, 424; without locality, *Dr. A. Henry*, 8808; chiefly near Tachienlu, *Mr. A. E. Pratt*, 381.

5064/ **Cladrastis sinensis**, *Hemsl.*

Foliolis 11-13 oblongo-lanceolatis, petiolo basi incrassato, floribus laxè paniculatis, paniculis multiramosis.

Frutex scandens? ramis floriferis elongatis flexuosis graciliusculis glabrescentibus. *Folia* imparipinnata, circiter pedalia, distincte petiolata, petiolo basi incrassato cavo gemmam includente; foliola alterna, breviter petiolulata, papyracea, oblongo-lanceolata, $2\frac{1}{2}$ - $4\frac{1}{2}$ poll. longa, obtusa vel subacuta, basi rotundata, supra glabra, subtus pallidiora, præcipue secus costam parce ferrugineo-puberula. *Flores* albi, circiter semipollicares, pedicellos graciles æquantes, paniculis folia æquantibus vel longioribus; calyx ferrugineo-pubescentis, latus, subæqualiter 5-lobatus, lobis brevissimis; petala longe unguiculata, oblonga, subæqualia, vexillo paullo latiore semper (?) erecto; stamina ima basi coalita; ovarium sessile, parce pilosulum. *Legumen* maturum non visum, planum, rostratum.

Pratt, 129.

6845 **Neillia affinis**, *Hemsl.*

Species *N. gracili* arcte affinis et forsan ejus varietas sed pluripedalis (saltem 2-3-pedalis) stipulis integris, calycis lobis longioribus, petalis majoribus crispulatis.

Szechuen, *Dr. A. Henry*, 8968; *Mr. A. E. Pratt*, 347.

The foliage of *Neillia gracilis*, *N. sinensis*, *N. rubiflora*, and the present species is so very similar that no specific character can be drawn from it, and it is probable that with a more complete series of specimens connecting links will be found.

6873 **Neillia longiracemosa**, *Hemsl.*

N. rubifloræ affinis foliis sæpius minoribus nec trilobatis, racemis simplicibus elongatis (usque 6 poll. longis) ebracteatis? vel si bracteis adsunt citissimo deciduis, calyce tubo fere cylindrico.

Pratt, 730.

This is another instance of very close affinity, but the Chinese plant can hardly be referred to the Indian *N. rubiflora*, Don, unless the combination be carried further.

8056 **Rubus allophyllus**, *Hemsl.*

R. arctico similis sed foliis simplicibus trilobatis vel trifoliolatis floribus minoribus calyce dense aculeolato vel setoso.

Herba perennis, caulibus debilibus puberulis 2-3-foliatis circiter semipedalibus. *Folia* longe graciliterque petiolata,

tenuia, papyracea, rotundato-cordata, plus minusve distincte trilobata (lobis rotundatis) vel perfecte trifoliolata (foliolis rotundatis breviter petiolulatis), $1\frac{1}{2}$ –2 poll. diametro, crebre acuteque denticulata, utrinque præcipue supra parcissime strigilosa, venis primariis paucis sursum ramosis in denticulis abeuntibus; petiolus 2–3 poll. longus; stipulæ membranaceæ, ovato-oblongæ, integræ, vel interdum acute tridentatæ, 3–4 lineas longæ. *Flores* solitarii, pseudoternales, 8–9 lineas diametro, graciliter pedicellati, pedicellis sæpius setulosi; calycis setosi lobi lanceolati, acuti, recurvi, intus albido-tomentosi; petala perfecta non visa, ut videtur angusta, calycis lobos vix excedentia; stamina numerosissima, filamentis glabris deorsum dilatatis; carpella pauca, glabra. *Fructus* ignotus.

Szechuen: Mount Omei, 3500 to 8000 feet, *Rev. E. Faber*, 521, 560.

7774 **Rubus Cockburnianus**, *Hemsl.*

R. Idæo affinis caulibus pruinosis, foliolis angustioribus, floribus rubris longe angusteque corymboso-paniculatis.

Caules pluripedales, aculeis brevissimis rectis paucissimis exceptis lævissimi, recti, teretes, solidi. *Folia* pinnata, breviter petiolata, usque ad 9 poll. longa, rhachide gracili nuda vel internodiis 1–2-aculeatis; foliola sæpissime 7 (foliorum supremorum 3), terminali excepto subsessilia, papyracea, lanceolata vel ovato-lanceolata, 2–5 poll. longa, acute acuminata, basi rotundata (terminali sæpius cordato-trilobato, lobis lateralibus parvis), argute serrulata, supra glabra, subtus incana. *Paniculæ* terminales, ad 8 poll. longæ (etiam adsunt corymbi parvi pedunculati in axillis foliorum superiorum), perglabræ, pedicellis gracilibus circiter semipollicaribus, florum superiorum fasciculatis. *Flores* 7–8 lineas diametro; calyx subcoriaceus, extus glaber, intus dense breviterque albo-tomentosus, lobis e basi lata ovata subulato-acuminatis petala excedentibus; petala suborbicularia, brevissime unguiculata, intus parce hirsutula, circiter 2 lineas longa, margine crispulata; discus latus, glaber; carpella juvenilia tantum visa, numerosissima, hirsuta. *Fructus* ignotus.

Pratt, 97.

8154 **Rubus pinnatisepalus**, *Hemsl.*

R. alceæfolio proximus, a quo differt foliorum lobis rotundatis calycis lobis elongatis alto pinnatisectis.

Rami teretes, graciliusculi, minute setoso-aculeati, simul albido-

tomentosi. *Folia* simplicia, petiolata, papyracea, cordato-orbicularia, 3-4 poll. diametro, breviter 5-lobata, minute creberrimeque denticulata, supra glabrescentia, rugulosa, subtus incana, venis primariis paucisetosis; petiolus teres, 1-2 poll. longus; stipulæ flabellato-pectinatae, circiter 9 lineas longæ. *Flores* pauci in axillis foliorum fasciculati, brevissime pedicellati, circiter sesqui-poll. diametro, bracteis stipulis similibus arcte suffulti; calyx intus extusque tomentosus, extus simul pilis paucis longis albis capitato-glandulosis instructus, lobis quam petala saltem duplo longioribus plus minusve pinnatisectis (segmentis angustissimis) vel eorum 1 vel 2 interdum integris; petala obovato-rotundata, breviter unguiculata, circiter 3 lineas longa, ima basi tantum puberula, venosa; carpella numerosissima, parce pilosula. *Fructus* non visus.

Szechuen: Mount Omei, 9000 to 10,000 feet, *Rev. E. Faber*, 505.

This belongs to the polymorphous group of which the variable *R. moluccanus*, L., is the type.

5-39550 **Rubus spinipes**, *Hemsl.*

Nanus, dense aculeatus, caulibus simplicibus unifloris (an semper?) foliis trifoliolatis longissime petiolatis.

Herba perennis, erecta, 6-15 poll. alta, præter flores ubique glabra, caulibus petiolis foliis (subtus secus costam et venas primarias) calycibusque aculeis rectis $\frac{1}{2}$ -3 lineas longis præ-acutis deorsum paullo dilatatis dense armatis. *Folia* cum petiolo usque 10 poll. longa (inferiora vix tripollicaria), pinnatim trifoliolata, foliolis lateralibus multo minoribus a terminali longe disjunctis; stipulæ breviter adnatæ, angustæ, integræ vel paucidentatæ, 6-9 lineas longæ; foliola tenuia, papyracea, terminale ovatum, ovato-oblongum vel oblongum, 1-4 poll. longum, acutum, serrulatum, simul interdum obscure lobulatum, basi rotundatum vel subtruncatum, lateralia subsessilia, oblonga, elliptica vel foliorum inferiorum orbicularia. *Flos* terminalis, 9-12 lineas diametro, pedicello circiter semipollicari; calyx dense aculeatus, tomentosus, intus dense albo-tomentosus, lobis latis ovatis abrupte subulato-acuminatis petala æquantibus vel superantibus; petala ovali-orbicularia, brevissime unguiculata, utrinque hirsuta; carpella numerosissima, juvenilia hirsuta. *Fructus* deest.

Szechuen: *Dr. A. Henry*, 8969.

A very distinct species, similar in foliage to the Indian *R. sik-*

kimensis, Hook. f. It is also near *R. xanthocarpus*, Franchet, which is described as having pilose branches and pubescent leaves and long-clawed petals.

7307 **Rosa Pratii**, *Hemsl.* (Plate XXX.)

Species pulchra ad gregem *R. macrophyllæ* pertinens, foliolis lineari-lanceolatis maximis vix pollicaribus, floribus minoribus, calycis lobis reflexis.

Rami glabri, rubescentes, inermes vel aculeis paucis medicribus rectis instructi, ramulis lateralibus floriferis brevibus gracilibus dense foliatis. *Folia* brevissime petiolata, 2-3 poll. longa, rhachide gracillima parce puberula inerma vel interdum aculeis paucis minimis instructa; foliola 11-15, subsessiles, crassiuscula, apiculata, obscurissime denticulata, utrinque secus costam plus minusve puberula, supra glabrescentia, stipulis integris acutis. *Flores* circiter 1 poll. diametro, corymbosi, 3-7 aggregati, rarius solitarii, pedicellis gracilibus circiter 9 lineas longis glanduloso-setosis; calycis tubus anguste urceolatus, dense glanduloso-setosus, lobis e basi lata abrupte caudato-acuminatis intus extusque tomentosus intus albidis interdum apice dilatatis; petala rotundata, emarginata; styli 5, brevissime exserti, hirsuti, carpellis dorso apiceque densissime setosis. *Fructus* ignotus.

Pratt, 116.

A very distinct Rose, easily distinguished by its numerous, small, closely arranged, narrow, obscurely toothed leaflets.

4633 **Pleurospermum Franchetianum**, *Hemsl.* (Hook. Ic. Pl. t. 2244, ined.)

P. Davidii affine sed differt foliorum segmentis angustioribus bracteis bracteolisque minus dissectis insigniter albo-marginatis.

Perenne vel bienne, erectum, robustum, 1½-2 ped. altum, undique glaberrimum, caulibus simplicibus cavis circiter ½ poll. diametro. *Folia* radicalia non visa, caulina tenuia, fere membranacea, longe petiolata, subtritermatim pinnatisecta, segmentis ultimis linearibus subacutis, maxima 6 poll. longa, petiolo angusto deorsum leviter dilatato; folia superiora sessilia, bracteiformia, paucilobata, umbellas laterales subtendentia. *Umbellæ* compositæ, pluri-vel multiradiatæ, unica sessilis, terminalis, floribus omnibus femineis, cum pluribus (circiter 15) lateralibus confertis longe pedunculatis floribus sæpissime omnibus masculinis; bracteæ

sæpius breviter trifidæ, umbellæ terminali majores sed quam radii fere dimidio breviores, umbellarum lateralium bracteæ radios graciles æquantes vel superantes; bracteolæ integræ, spathulatae, pedicellos brevissimos superantes, 3-5 lineas longæ. *Fructus* (maturus ignotus) glaber, stylis longis divergentibus coronatus.

Pratt, 552.

This is a very distinct and showy species, and the evident separation of the sexes is interesting. The terminal umbel is sessile and female, and it is surrounded and overtopped by numerous smaller, compound, lateral umbels bearing only male flowers, or possibly occasionally a functionally female flower in the centre. Whether this condition be constant is uncertain; but from a cursory examination of other species of the genus, it would appear that the flowers are commonly functionally unisexual.

5-39551 **Saussurea alatipes**, *Hemsl.*, n. sp.

Erecta, foliis amplis sublyratis ovatis basi fere truncatis, petiolo longo dentato vel pinnatifido-alato, capitulis laxe corymbosis, involucri bracteis multiseriatis, acheniis glabris.

Perennis vel biennis, 1-2-pedalis, caule striato puberulo infra medium simplici et folioso, supra medium laxe corymboso-ramuloso et fere nudo, interdum fere simpliciter corymboso. *Folia* papyracea, longe petiolata vel pseudopetiolata, cum petiolo 4-8 poll. longa, suprema minora, maxima $3\frac{1}{2}$ poll. lata, obscure vel grosse callosa-dentata, acute acuminata, supra hispidula, subtus dense breviterque albido-tomentosa. *Capitula* obconica, circiter 25-flora, florentes 8-12 lineas longa lataque; involucri bracteæ parce tomentosæ, anguste lanceolatae, acutæ vel acuminatae, sæpe recurvæ, inferiores minutæ, interiores quam flores fere dimidio breviores, omnes plus minusve coloratæ; receptaculi setæ achenia superantes. *Flores* albi vel purpurei (fide *Henry*). *Achenia* matura non visa; pappi setæ uniseratæ, circiter 20, per totam longitudinem plumosæ.

Szechuen: North Wushan, *Dr. Henry*, 7066, 7141.

5-6500 **Saussurea auriculata**, *Hemsl.*

S. serratae similis sed foliis late biauriculatis amplexicaulibus corymbis axillaribus folia vix æquantibus capitulis majoribus.

Perennis? erecta, circiter bipedalis, undique glabra, caulibus simplicibus graciliusculis per totam longitudinem foliosis, internodiis quam folia multoties brevioribus. *Folia* membranacea,

sessilia, patentia, lanceolata, longe acuminata, circiter semipedalia, insigniter apiculato-dentata, costa albida subtus elevata. *Corymbi* plures, 5-8-capitulati, in axillis foliorum superiorum corymbum decompositum foliaceum terminalem formantes. *Capitula* breviter pedunculata, circiter 9 lineas longa, circiter 12-flora; involucri bracteæ multiseriatæ, squamiformes, arcte appressæ, ovatæ, obtusæ, exteriores minores; receptaculi paleæ setiformes, achænia superantes. *Achænia* (matura non visa) angusta, nigro-lineata, glabra; pappi setæ uniseriatæ, circiter 15, longe plumosæ.

Hupeh: Fang at 7000 to 9500 feet, *Dr. A. Henry*, 6789.

5-3952 **Saussurea cirsioides**, *Hemsl.*

Ex affinitate *S. Falconeri* sed capitulis multo minoribus numerosioribus confertis.

Perennis vel biennis, erecta, circiter pedalis, caulibus simplicibus crassiusculis parce araneoso-lanatis albidis. *Folia* tenuia, papyracea, deorsum attenuata sed non vere petiolata, angusta, runcinato-pinnatifida, lobis distantibus subacutis, 3-4 poll. longa, plus minusve præcipue subtus incana, caulina pauca, distantia. *Capitula* circiter semipoll. diametro, 2-8 apice caulorum conferta, subsessilia; involucri bracteæ circiter 6-seriatæ, subæquales, ovato-lanceolatæ, subite longeque acuminatæ, acutæ, erectæ, infra medium crassæ, duræ, supra medium herbacæ, purpureæ, parce pilosæ; receptaculis paleæ setiformes, achænia longe superantes pappum fere æquant. *Achænia* glabra (matura non visa), brevissima, lata, sursum dilatata; pappi setæ biseriatae, exteriores breviores, scabridæ, interiores parce plumosæ pilis longissimis.

Pratt, 674.

5-3953 **Saussurea conyzoides**, *Hemsl.*

S. salicifoliæ proxima sed robustior ramosior foliis majoribus distincte petiolatis involucri bracteis apice insigniter plumosis.

Perennis vel biennis, erecta, 3-4 ped. alta. *Caules* crassiusculi (infra medium 4-5 lineas crassi), leviter sulcati vel striati, cavi, fere glabri, supra medium tantum ramosi, ramulis brevibus gracilibus sæpissime corymbis 2-3 parvis densis lateralibus cum unico terminali majore gerentibus. *Folia* radicalia non visa, caulina (infima non visa) distincte petiolata, membranacea, lanceolata, acuminata, usque ad 8 poll. longa et 2½ lata (sursum minora, suprema fere bracteiformia), basi cuneata, remote apiculato-denticulata, supra glabra vel glabrescentia, subtus

brevissime incano-tomentosa; petiolus usque ad 1 poll. longus. *Corymbi* simplices vel compositi, partiales maximi vix ultra sesquipoll. diametro. *Capitula* brevissime pedunculata, angusta, semipoll. longa, circiter 6-flora; involucri bracteae multiseriatæ, exteriores minores squamiformes, omnes obtusæ, interiores apice plumoso-villosæ; receptaculi paleae setiformes, pappum fere æquantes. *Flores* purpurei (*Henry*). *Achænia* (matura non visa) glabra, brevia; pappi setæ 2-seriatæ, exteriores breviores, simplices, interiores longe plumosæ.

Hupeh: Fang, *Dr. A. Henry*, 7575.

5-39555 ***Saussurea cordifolia*, Hemsl.**

Affinis *S. triangulatae*, foliis amplissimis rotundato-cordatis longissime petiolatis, involucri bracteis latis apice herbaceis.

Perennis vel biennis, erecta, circiter tripedalis, fere undique glabra, caulibus graciliusculis striatis paucifoliatis. *Folia* radicalia non visa, caulina permembranacea, suprema parva ovata excepta, profunde cordata, sinu late aperto, maxima 9 poll. lata, acuminata, grosse apiculato-dentata, supra parcissime strigillosa, subtus pallidiora, petiolo usque ad 8 poll. longo basi dilatato amplexicauli. *Capitula* pauca (circiter 9), longe pedunculata, corymbosa, circiter 1 poll. diametro, pedunculis sulcatis; involucri bracteae circiter 6-seriatæ, intimæ anguste lanceolatae exceptæ subæquales, late ovaes vel oblongæ, apice parte angusta herbacea, recurva, ciliolata; receptaculi paleae setiformes, pappum fere æquantes. *Flores* purpurei (fide *Henry*), involucrium vix superantes. *Achænia* glabra, graciles, cylindrica, recta vel exteriores curvata, 3-4 lineas longa; pappi setæ circiter 15, uniseriatæ, per totam longitudinem plumosæ.

Hupeh: Patung district, *Dr. A. Henry*, 414, 5075, and Fang, 6640. Szechuen: South Wushan, *Dr. A. Henry*, 7460.

5-39556 ***Saussurea decurrens*, Hemsl.**

Erecta, puberula, foliis e basi angusta subite ovato-oblongis dentatis late decurrentibus, capitulis parvis glabris dense cymosocorymbosis.

Perennis caulibus subsimplicibus circiter bipedalibus. *Folia* tenuia, 3-6 poll. longa, internodia excedentia, longe acuminata, irregulariter apiculato-dentata, præcipue supra asperula. *Corymbi* laterales et terminales 8-multicapitati, laterales quam folia breviores. *Capitula* circiter 10-flora, breviter pedunculata, 7-9

lineas longa; involucri bracteæ multiseriatæ, glabræ, crassæ, coriaceæ, erectæ, obtusæ, exteriores gradatim breviores, extimæ minutæ, longiores circiter 4 lineas longæ; receptaculum parvum, setis glabris achænia vix æquantibus; corollæ alte 5-lobatæ lobis linearibus, tubo infra antheras angustissimo; antherarum caudæ pilosæ. *Achænia* glabra, compressa, pappo fere æquilonga; pappi setæ biseriatae, exteriores multo breviores, scabridæ, interiores circiter 20, longe plumosæ, involucrum fere dimidio superantes.

Hupeh: Fang, *Dr. A. Henry*, 6775.

Nearly allied to *Saussurea sachalinensis*, F. Schmidt, and possibly an extreme variety of it, differing in the much more broadly decurrent leaves, glabrous, relatively shorter involucre, and much longer achenes.

529557 ***Saussurea Henryi*, Hemsl.**

Species eximia ex affinitate *S. Kunthianæ* et *S. taraxacifoliæ*, sed foliis hispidulis (nec argenteo-tomentosis) pinnatipartitis, segmentis mucronulatis.

Herba perennis? caulescens, erecta, $\frac{1}{2}$ -2 ped. alta, caulibus graciliusculis supra medium, bracteis paucis exceptis, nudis capitulis 1-3 terminantibus. *Folia* longiuscule petiolata, rigidiuscula, 3-7 poll. longa, pinnatipartita vel alte pinnatifida; segmenta 15-23, anguste oblonga, sæpius 9-12 lineas longa (foliorum inferiorum interdum latiora et paucidentata), patens vel plus minusve deflexa, uninervia, basi dilatata, subtus glabra, interdum purpurascens. *Capitula* obconica, majora circiter 1 poll. longa lataque; involucri bracteæ multiseriatæ, araneoso-tomentosæ vel fere glabræ, e basi lata subulatæ, plus minusve recurvæ; receptaculum conicum, paleis subulatis achænia superantibus. *Flores* rubri vel purpurei; corollæ lobi longi, lineares. *Achænia* nigra, glabra; pappi setæ sæpius 15, uniseriatæ, a basi plumosa.

Hupeh: North Patung, *Dr. A. Henry*, 7068 A. Szechuen: South Wushan, *Dr. A. Henry*, 7068.

5-39558 ***Saussurea populifolia*, Hemsl.**

Habitu foliisque *S. radiatæ*, Franch. (*S. lamprocarpa*, Hemsl.), similis, sed fere omnino glabra, capitulis minoribus, achæniis brunneis striatis.

Caules erecti, 1-2-pedales, 1-5-capitati. *Folia* radicalia non visa, caulina distincte petiolata, sed lamina decurrenti, tenuia, papyracea, cordata subcordata vel ovato-rotundata, basi cuneata,

maxima absque petiolo 4 poll. longa et lata, abrupte longeque acuminata, simul acutissima, crebre apiculato-dentata, lævia, venis primariis lateralibus utrinque circiter 8 cum venulis subgrosse reticulatis subtus sat conspicuis; petiolus anguste alatus, usque 2 poll. longus, foliis paucis supremis subsessilibus. *Capitula* circiter $1\frac{1}{2}$ poll. diametro, longe pedunculata, bracteis paucis foliaceis angustis instructa; involucri bracteæ multiseriatæ, intimæ exceptæ subæquales, lanceolatae, acuminatae, supra medium herbaceæ, minute puberulae, interdum coloratae, demum recurvæ, interiores erectæ, pappum fere æquantes, lineares, omnino scarioso-coriaceæ, apice plumoso-hirsutæ; receptaculi paleæ setiformes, numerosissimæ, achænia paullo superantes. *Flores* rosei (*A. Henry*). *Achænia* angusta, fere cylindrica, glabra, nigro-lineata, leviter sulcata; pappi setæ circiter 20, uniseriatæ, per totam longitudinem longe plumosæ.

Hupeh: Hsingshan, common on top of mountain at an altitude of 9500 feet, *Dr. A. Henry*, 6942.

Saussurea villosa, *Franch. in Journ. de Bot.* ii. 1888, p. 353, forma major $2\frac{1}{2}$ –3 ped. alta, foliis inferioribus pedalibus, caulibus circiter capitulis 8 dense corymbosis.

Hupeh: Hsingshan at 9000 feet, *Dr. A. Henry*, 9762.

This is evidently a fully developed state of Franchet's species, though at first sight it looks very different.

5-39559 *Saussurea Woodiana*, *Hemsl.*

Ex affinitate *S. hieracioidei*, a qua differt caule subnullo, foliis sessilibus subtus sericeo-tomentosis, involucri bracteis angustioribus.

Biennis? uniflora, hirsuta. *Folia* pauca, patentia, mollia, crassiuscula, obovato-oblonga vel fere lanceolata, ad 4 poll. longa, obtusa, sinuata, supra parce villosula pilis basi incrassatis, subtus sericeo-tomentosa, argentea. *Capitulum* subsessile, circiter $1\frac{3}{4}$ poll. longum et latum; involucri bracteæ circiter 4-seriatæ, lanceolatae vel interiores fere lineares, longe acuminatae, acutissimæ, exteriores circiter pollicares, præcipue supra medium villosæ et purpureo-marginatæ; receptaculi paleæ angustissimæ, fere setiformes, quam achænia breviores; antherarum caudæ longæ, lanatæ. *Achænia* matura non visa, angusta, glabra, fere 3 lineas longa; pappi setæ circiter 15, uniseriatæ, fere pollicares, longissime plumosæ.

Pratt, 452.

This is closely allied to *Saussurea villosa*, Franch., from Yunnan, which was also collected by Przewalski in Western Kansuh, and referred doubtfully by Maximowicz to *S. hieracioides*, Hook. f.

It is named after Mr. T. Wood, of the firm of Drysdale & Co., Shanghai, who rendered Mr. Pratt many kind services and nursed him through an attack of fever.

5-39561 **Primula japonica**, *A. Gray*, forma robusta foliis usque ad sesquiped. longis scapo tripedali.

Szechuen, *Dr. A. Henry*, 8879; *Mr. A. E. Pratt*, 130 and 356.

1409 **Primula Cockburniana**, *Hemsl.*

P. Poissoni similis sed foliis tenuioribus fere obsolete denticulatis, scapo graciliore, floribus minoribus, calycis farinosi dentibus deltoideis, corollæ lobis retusis, bracteis minutis.

Herba perennis, glabrescens, scapo gracili 4-12 poll. alto, floribus in verticillos 2-3 superpositos dispositis, verticillis 3-6-floris. *Folia* tenuia, obovato-oblonga, deorsum attenuata sed non vere petiolata, apice rotundata, 2-4 poll. longa, primum plus minusve pulverulenta, cito glabrescentia, obscure lobulata simul minute denticulata, venis primariis conspicuis. *Flores* circiter 6 lineas longa et 9 lineas lata, pedicellis gracilibus demum fere pollicaribus; calyx anguste campanulatus, circiter 2 lineas longus, dentibus erectis acutis; corollæ glabri tubus cylindricus, lobis obcordatis patentibus venosis. *Capsula* deest.

Pratt, 174.

Easily recognized by its slender habit among the species having superposed whorls of flowers.

The name given to this species is intended to commemorate two gentlemen to whom Mr. Pratt was indebted for much valuable assistance. They are H. Cockburn, Esq., formerly of H.M. Consular Service at Chungking, and the Rev. G. Cockburn, of the Church of Scotland Mission in China. Though of the same name, these gentlemen are in no way related.

1612 **Primula nutantiflora**, *Hemsl.*

P. soldanelloidei simillima, differt foliis oblongo-spathulatis sessilibus supra medium paucidentatis, subtus pulverulentis, scapo circiter 3-4 lineas sub florum bracteis 2 parvis instructo calycis plus minusve pulverulenti dentibus acutis.

Szechuen: South Wushan, *Dr. A. Henry*, 5584.

This is also near the Himalayan *P. uniflora*, but that has very broad calyx-lobes and a very differently shaped corolla.

1610 **Primula Prattii**, *Hemsl.*

P. pulchellæ arcte affinis sed minor gracilior, foliis subintegris deorsum valde attenuatis, floribus fere dimidio minoribus flavis, corollæ tubo sursum minus ampliato.

Pratt, 522.

P. pulchella, Franch., is nearer *P. Stuartii*, Wall., but differs according to Franchet (*in schedula*) in the shape of the capsule and in the seeds. Nevertheless there is little or nothing to separate *P. pulchella* from *P. Prattii* beyond what is indicated above.

822 **Lysimachia hypericoides**, *Hemsl.*

Puberula erectis, foliis sessilibus ovatis vel oblongo-lanceolatis superioribus alternis, floribus mediocribus axillaribus solitariis, staminibus fere liberis.

Herba perennis, stolonifera, multicaulis, caulibus teretibus simplicibus 6-15 poll. altis. *Folia* omnia sessilia, opposita, vel superiora sub floribus alterna, papyracea, plus minusve puberula (infima multo minora fere rotundata, semiamplexicaulia, hirsuta), obtusa vel acuta, $\frac{1}{2}$ -2 poll. longa (sursum gradatim longiora), minutissime punctata (punctis fere obsoletis), vena inconspicua intramarginali instructa. *Flores* flavi (*A. Henry*), circiter semipoll. diametro, pedicellis filiformibus quam folia circiter dimidio brevioribus; sepala crassiuscula, extus hirsutula, lineari-lanceolata vix acuta, quam corolla triente fere breviora; corollæ rotatæ eglandulosæ segmenta late obovato-rotundata, venosa; stamina glabra, filamentis ima basi tantum connatis; ovarium glabrum. *Capsula* non visa.

Hupeh: Chiensih, *Dr. A. Henry*, 5842.

Of erect or suberect habit, with foliage resembling *Hypericum hirsutum*, and flowers very similar to those of *Lysimachia nemorum*, though rather smaller.

815 **Lysimachia omeiensis**, *Hemsl.*

Erecta, parcissime puberula, foliis omnibus oppositis sessilibus membranaceis ovatis, floribus axillaribus solitariis, corollæ segmentis lanceolatis acutis.

Herba perennis, ut videtur multicaulis, caulibus teretibus simplicibus circiter pedalis. *Folia* infima squamiformia, sursum

gradatim majora, maxima vix $2\frac{1}{2}$ poll. longa acuta, minutissime punctata, glabrescentia. *Flores* 6–8 lineas diametro, pedicellis gracillimis quam folia brevioribus; sepala angustissima, acuta, quam corolla paullo breviora, extus hirsutula; corolla rotata, eglandulosa, venosa; stamina vix monadelphica; ovarium glabrum. *Capsula* deest.

Szechuen: mount Omei, 9000–11,000 feet, *Rev. E. Faber*, 224.

One of the very few species of erect habit with simple stems and solitary axillary flowers. The latter are similar to those of *L. nemorum*, but the corolla-lobes are narrower and acute.

858 ***Lysimachia nigrolineata*, Hemsl.**

Gracilis, adscendens, hirsuta, foliis alternis petiolatis parvis ovatis, floribus parvis axillaribus solitariis insigniter nigrolineatis.

Herba perennis (?), ut videtur multicaulis, caulibus gracilibus 6–9 poll. longis, internodiis quam folia brevioribus. *Folia* alterna, longe petiolata, papyracea, molliter hirsuta vel villosa, ovata, lamina secus petiolum decurrentia, 5–10 lineas longa, obtusa, crebre nigrolineata. *Flores* flavi, axillares, solitarii, 6–8 lineas diametro, pedicellis filiformibus folia paullo superantibus; sepala anguste lanceolata, acuminata, corollam fere æquantia, tenuia, extus præcipue infra medium villosula, conspicue nigrolineata; corollæ rotatæ segmenta late ovalia, obtusa, conspicue nigrolineata; stamina breviter monadelphica; ovarium villosum. *Capsula* ignota.

Nanking: coll. C. Schmidt, comm. *Rev. E. Faber*, n. 1602.

A very distinct species, resembling some of the species of *Saxifraga* of the *Hirculus* group.

903 ***Lysimachia involucrata*, Hemsl.** (Plate XXXI.)

Procumbens vel adscendens, fere omnino glabra, foliis oppositis, floribus dense cymosis vel pseudocapitatis, cymis paucifloris axillaribus longe pedunculatis sub floribus bracteis amplis instructis.

Herba perennis (palustris?), caulibus elongatis saltem 2–3-pedalibus debilibus, internodiis quam folia longioribus. *Folia* opposita, membranacea, primum parcissime puberula, distincte petiolata, ovato-lanceolata, acute acuminata, cum petiolo 2–3 poll. longa, basi rotundata vel subcuneata, glandulis nigris lineolatis crebre conspersa, venis primariis utrinque circiter 5 arcuatis juxta marginem inter se anastomosantibus. *Bracteæ* foliaceæ

(rectius folia minora conferta), petiolatæ, oppositæ vel subsessiles, late ovatæ vel fere orbiculares, acuminatæ, flores æquantes vel superantes, ciliolatæ. *Flores* flavi, circiter 9 lineas diametro, 4–6 ad apices ramulorum axillarum congesti, pedunculo (seu internodio basilari) folia sæpissime superanti; sepala parce hirsutula, anguste lanceolata, acuta, corollam æquantia; corolla glabra, campanulata, lobis tubo æqualibus; stamina glabra, fere medio monadelpha; ovarium hirsutum.

Szechuen, *Dr. A. Henry*, 8884; *Mr. A. E. Pratt*, 410.

The quasi-capitate flowers with large leafy bracts sufficiently characterize this species.

924 ***Lysimachia longipes*, Hemsl.** (Plate XXXII.)

Erecta, undique glaberrima, foliis ovatis sessilibus, floribus mediocribus laxè racemoso-corymbosis, corymbis longe graciliterque pedunculatis, pedunculis nudis.

Herba perennis (?), saltem bipedalis, caulibus subsimplicibus albidis politis. *Folia* opposita, sessilia, membranacea, ovata, 2–4 poll. longa, longissime acutissimeque acuminata, basi rotundata, undique obscure punctata, simul juxta marginem conspicue glanduloso-punctata, subtus glauca, venis primariis lateralibus paucis haud conspicuis. *Flores* albi vel flavi, 6–8 lineas diametro, longe pedicellati; corymbi axillares et terminales, folia superantes, sæpius 6–8-flori, pedunculis gracillimis simul rigidis ebracteatis; pedicelli filiformes 1–1½ poll. longi, bracteolis setaceis; sepala subcarnosa, lineari-lanceolata, acuminata, corollam superantia, intus lineis paucis glandulosis crassis instructa; corollæ rotatæ segmenta ovato-lanceolata, densissime lineata; stamina alte monadelpha; ovarium glabrum. *Capsula* quam calyx persistens fere dimidio brevior, 5-valva.

Ningpo mountains, *Rev. E. Faber*, n. 1638.

In foliage this resembles the alternate-leaved *L. Fœnum-græcum*, Hance, and *L. simulans*, Hemsl., but the racemose-corymbose inflorescence is very different.

6592 ***Salvia* (§ *Drymosphace*) *Prattii*, Hemsl.**

Species ex affinitate *S. hiantis*, differt foliis omnibus cordato-oblongis (nec sagittatis aut hastatis) regulariter crenatis floribus majoribus calyce non viscoso.

Perennis, erecta, robusta, vix sesquipedalis, caulibus simplicibus parce villosulis. *Folia* papyracea, graciliter petiolata, cordato-

oblonga vel cordato-ovata, lobis rotundatis, absque petiolo $1\frac{1}{2}$ – $2\frac{1}{2}$ poll. longa, obtusa, minute crenulata, utrinque præcipue subtus parce pubescentia, supra obscure punctato-glandulosa, inferiorum petiolis 4–5 poll. longis. *Verticillastri* circiter 6-flori, conferti, bracteis bracteolisque obovato-rotundatis striatis villosulis maximis calycem paullo superantibus. *Flores* rubri vel purpurei, bipollicares, nutantes; calycis villosuli labium superius integrum, inferius breviter bidentatum; corollæ tubus ampliatus, leviter curvatus, labio superiore parvo leviter incurvo compresso emarginato, labio inferiore trilobato, lobo intermedio latissimo; stamina glabra, fauce tubi inserta, filamentis dilatatis connectivi ramis subæqualibus.

Pratt, 491, 546.

53962 *Oxyria sinensis*, *Hemsl.* (Plate XXXIII.)

Ab *O. digyna* differt caule folioso inflorescentiæ magis divaricatis fructu latiore quam longo stigmatibus sessilibus.

Herba, ut videtur, perennis, erecta, circiter bipedalis, caule valido striato hispidulo infra inflorescentiam simplici. *Folia* radicalia non visa, caulina distincte petiolata, crassa, subcarnosa, opaca, rotundato-cordata vel fere reniformia, $1\frac{1}{2}$ –2 poll. lata, glabra, undulata simul minutissime crispata, interdum obscure lobulata, venis paucis inconspicuis; petiolus 1–2 poll. longus, basi in ochream latam tubulosam truncatam expansus. *Flores* hermaphroditi, racemoso-paniculati, fasciculati pedicellis capillaribus 2–3 lineas longis; panicula densa, circiter 9 poll. longa, bis terque ramosa, hispidula, bracteis minutissimis. *Perianthium* minutum, fructiferum vix auctum, segmentis 2 exterioribus demum reflexis, 2 interioribus majoribus oblongis nucem arcte appressis; stamina 6 quam perianthium fere dimidio breviora. *Nux* late bialata.

Pratt, 779.

A very distinct species easily recognized by its stout leafy stem. It is worthy of note that the very widely spread *Oxyria digyna*, Hill, the only other known species of the genus, has not hitherto been found either in China proper or Japan; yet it occurs in the mountains of Northern India and in the island of Saghalien. It is also spread all round the arctic regions and extends southward in the mountain-ranges of both eastern and western North America, to the Pyrenees and Alps in Europe, and to the mountains of Syria in Western Asia.

5-39563 **Daphne retusa, Hemsl.**

D. odoræ arcte affinis sed foliis crassis subcarnosis emarginatis sat differt.

Frutex densissime ramosus, ut videtur nanus, ramis brevibus crassis apice tantum foliosis inter folia fulvo-hirsutis. *Folia* conferta, sessilia vel subsessilia, crassa, coriacea vel subcarnosa, glabra, siccitate corrugata, oblonga vel anguste obovata, 6-15 lineas longa, leviter emarginata simul rotundata, basi vix cuneata, margine revoluta, venis immersis obscurissimis. *Flores* ad apices ramorum sessiles, subcapitati, bracteis obovato spathulatis quam flores dimidio brevioribus cito deciduis; perianthium subcarnosum, glabrum, circiter 9 lineas longum et diametro, lobis latis fere rotundatis venosis, tubo crasso corrugato; stamina 4 superiora breviter exserta; ovarium glabrum, stigmatibus sessilibus. *Bacca* ignota.

Pratt, 737.

I was at first disposed to treat this as a stunted mountain form of *Daphne odora*, Thunb., but the very thick, small, emarginate leaves are so very different that it is easily distinguished.

5-21122 **Calanthe ecarinata, Rolfe.**

Folia obovato-oblonga, brevissime et abrupte acuminata, basi attenuata, 3-5 poll. longa, $1\frac{1}{2}$ - $2\frac{1}{2}$ poll. lata. *Scapus* 1 ped. altus, puberulus, circa 10-florus. *Bracteæ* ovato-lanceolatæ, acuminatæ, $2\frac{1}{2}$ -3 lin. longæ. *Pedicelli* 6 lin. longi. *Sepala* oblongo-lanceolata, brevissime acuminata, 6-7 lin. longa. *Petala* sepalis similia, angustiora. *Labellum* columna adnatum, sessile, ecalcaratum, trilobum, ecarinatum, lobo medio flabellato-rotundato obtuso $2\frac{1}{2}$ lin. diametro, lobis lateralibus orbiculari-oblongis $1\frac{1}{2}$ lin. longis. *Columna* brevis, lata.

Pratt, 765.

Closely allied to *C. tricarinata*, Lindl., but with the front lobe of the lip quite sessile, and without the slightest trace of the conspicuous keels of that species, in which also the front lobe of the lip is distinctly stalked and the side lobes laterally attached to the same.

5-18657 **Calanthe buccinifera, Rolfe.**

Folia breviter petiolata, obovato-oblonga, breviter acuminata, basi attenuata, 4-12 poll. longa, $1\frac{1}{2}$ - $2\frac{1}{2}$ poll. lata. *Scapus* 1- $1\frac{1}{2}$ ped. altus, glabrus, multiflorus. *Bracteæ* lineari-lanceolatæ,

acuminatæ, 6–10 lin. longæ. *Pedicelli* 6–9 lin. longi. *Sepala* oblongo-lanceolata, acuminata, 9–11 lin. longa, $2\frac{1}{2}$ –3 lin. lata. *Petala* sepalis similia, minora. *Labellum* integrum, rotundato-flabellatum, fimbriatum, 7–8 lin. latum, utrinque ad apicem columnæ adnatum, basi in calcar $\frac{3}{4}$ –1 poll. longo gradatim attenuatum, disco lævi. *Columna* clavata, 5 lin. longa.

Pratt, 72, 102, 683. Prov. Hupeh, *Henry*, 6064, 7161. Mt. Omei, Szechuen, at 5000 feet alt., *Faber*, 953.

A very distinct species, most nearly allied to the Himalayan *C. alpina*, Hook. f., which, however, has smaller, very differently coloured flowers and a much shorter spur. The flowers of the present species appear to be a somewhat uniform rose-purple. The lip is much like that of some species of *Galeandra*, except that its margins are adnate to the sides of the column.

5-24570 **Habenaria camptoceras**, *Rolfe*.

Planta pusilla, $2\frac{1}{2}$ –3 poll. alta. *Folia* bina, radicalia, elliptico-v. lanceolato-ovata, subacuta, $\frac{3}{4}$ – $1\frac{1}{4}$ poll. longa, 2–6 lin. lata. *Scapus* uni- v. biflorus. *Bracteæ* ovato-lanceolatæ, acuminatæ, 5–8 lin. longæ. *Sepalum* posticum erectum, late ovatum, obtusum, concavum, 4 lin. longum; sepala lateralia erecta, obliqua, late semicordata, obtusa, trinervia. *Petala* cum sepalo postico in galeam conniventia, lanceolato-lineararia, obtusa, binervia, $\frac{3}{4}$ lin. lata. *Labellum* trilobum, 6–7 lin. longum; lobus medius late ellipticus, obtusissimus, 4 lin. latus, repando-crenulatus; lobi laterales oblongo-lineares, subfalcati, obtusi, 3 lin. longi, 1 lin. lati; calcar 8–9 lin. longum, crassiusculum, curvatum, apice clavatum, obtusissimum. *Columna* brevis, stigmata brevissima.

Pratt, 305.

A most distinct species, with the habit of *H. Aitchisoni*, Rchb. f., but with fewer and many times larger flowers and erect lateral sepals. This nevertheless appears to be its true affinity.

2408 **Cypripedium himalaicum**, *Rolfe*.

Erecta, $\frac{1}{2}$ – $1\frac{1}{4}$ ped. alta. *Folia* ovato- v. elliptico-oblonga, brevissime acuminata, 2–4 poll. longa, 1 – $2\frac{1}{4}$ poll. lata. *Sepalum* posticum ovatum, acuminatum; lateralia connata, paullo angustiora. *Petala* ovato-lanceolata, acuminata, sepalis æqualia. *Labellum* subglobosum, $\frac{3}{4}$ – $1\frac{1}{4}$ poll. longum. *Staminodium* subcordato-ellipticum, subacutum, 3–4 lin. longum.—*C. macranthon*, Hook. f., Fl. Brit. Ind. vi. p. 170, ex parte, non Sw.

Pratt, 748.—Also Lachen, Sikkim, 11,500–12,000 feet alt., *J. D. Hooker*; Hill above Jhala, Tihri Garhwal, 12–13,000 feet, *Duthie*, and opposite Budhi village, in Nepal, 11–12,000 feet, *Duthie*.

Allied to *C. macranthon*, Sw., but far smaller in all its parts, with various small structural differences and quite different colours. The flowers measure $1\frac{1}{4}$ – $2\frac{1}{4}$ inches in diameter, the sepals and the petals are light yellow, veined with brownish red, and the lip maroon-purple.

5-5088 **Cypripedium tibeticum**, *King*, in herb. *Kew*.

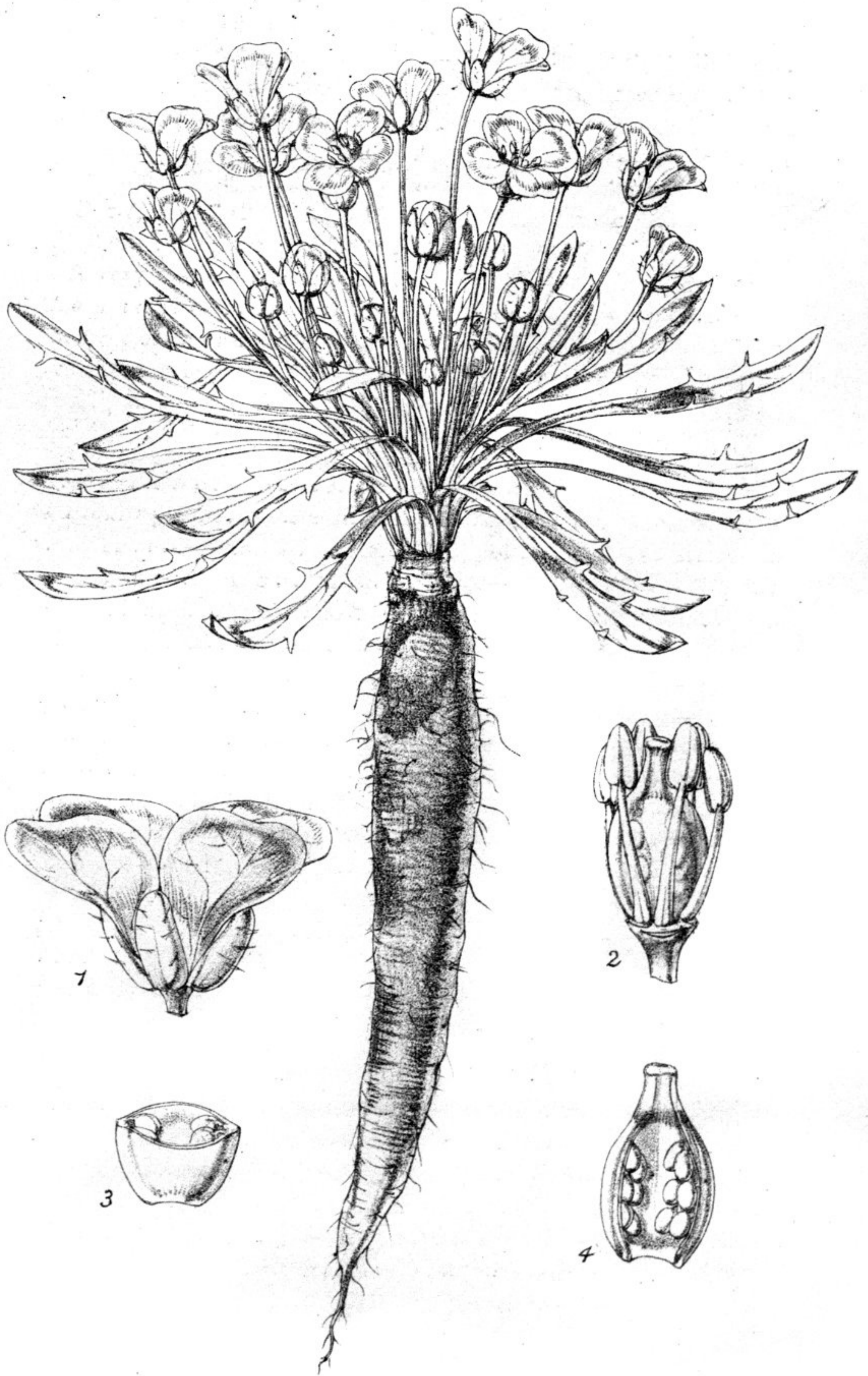
Erecta, $\frac{1}{2}$ – $1\frac{1}{4}$ ped. alta. *Folia* elliptico-oblonga, subobtusata v. brevissime acuminata, 2– $5\frac{1}{2}$ poll. longa, 1– $2\frac{3}{4}$ poll. lata. *Sepalum* posticum ovatum, breviter acuminatum; lateralia connata similia. *Petala* lanceolato-ovata, breviter acuminata, sepalis æqualia. *Labellum* subglobosum, 1– $1\frac{1}{2}$ poll. longum. *Staminodium* late cordato-ovatum, obtusum, 5–6 lin. longum.—*C. macranthon* var. *ventricosa*, Hook. f. Fl. Brit. Ind. vi. p. 170, ex parte, non Carr.

Pratt, 14, 42, 301, 736.—Also Chumbi and Phari, collected by Dungboo, and communicated by Dr. King.

Allied to the Siberian *C. macranthon*, Sw., but with far shorter and broader petals, a different staminode and other peculiarities, as well as quite different colours. According to Dr. King's Calcutta drawing the sepals and petals are nearly white, passing into light yellow at the apex, all the nerves being maroon-purple with a few transverse reticulations. The lip and staminode are maroon-purple, the latter being much darker round the mouth. The flowers measure three to four inches in diameter, and the veinings of the sepals and petals are very apparent in the dried specimens.

1559 **Arisæma parvum**, *N. E. Brown*.

Tubere parvo, $\frac{1}{2}$ – $\frac{3}{4}$ poll. diam.; folii solitarii petiolo 3–7 poll. longo, lamina trisecta, segmentis omnibus sessilibus, lateralibus $1\frac{1}{2}$ – $2\frac{1}{2}$ poll. longis suboblique ovatis acuminatis, intermedio duplo brevioris $\frac{3}{4}$ – $1\frac{1}{4}$ poll. longo et lato late obovato vel obcordato apice subtruncato vel emarginato apiculato basi cuneato; scapo 2–4 poll. longo; spathæ tubo 1– $1\frac{1}{4}$ poll. longo atro-purpureo, lamina $1\frac{1}{4}$ – $1\frac{3}{4}$ poll. longa lanceolata acuta vel acuminata procurva viridi basi albo-striata; spadiceis unisexualis appendice



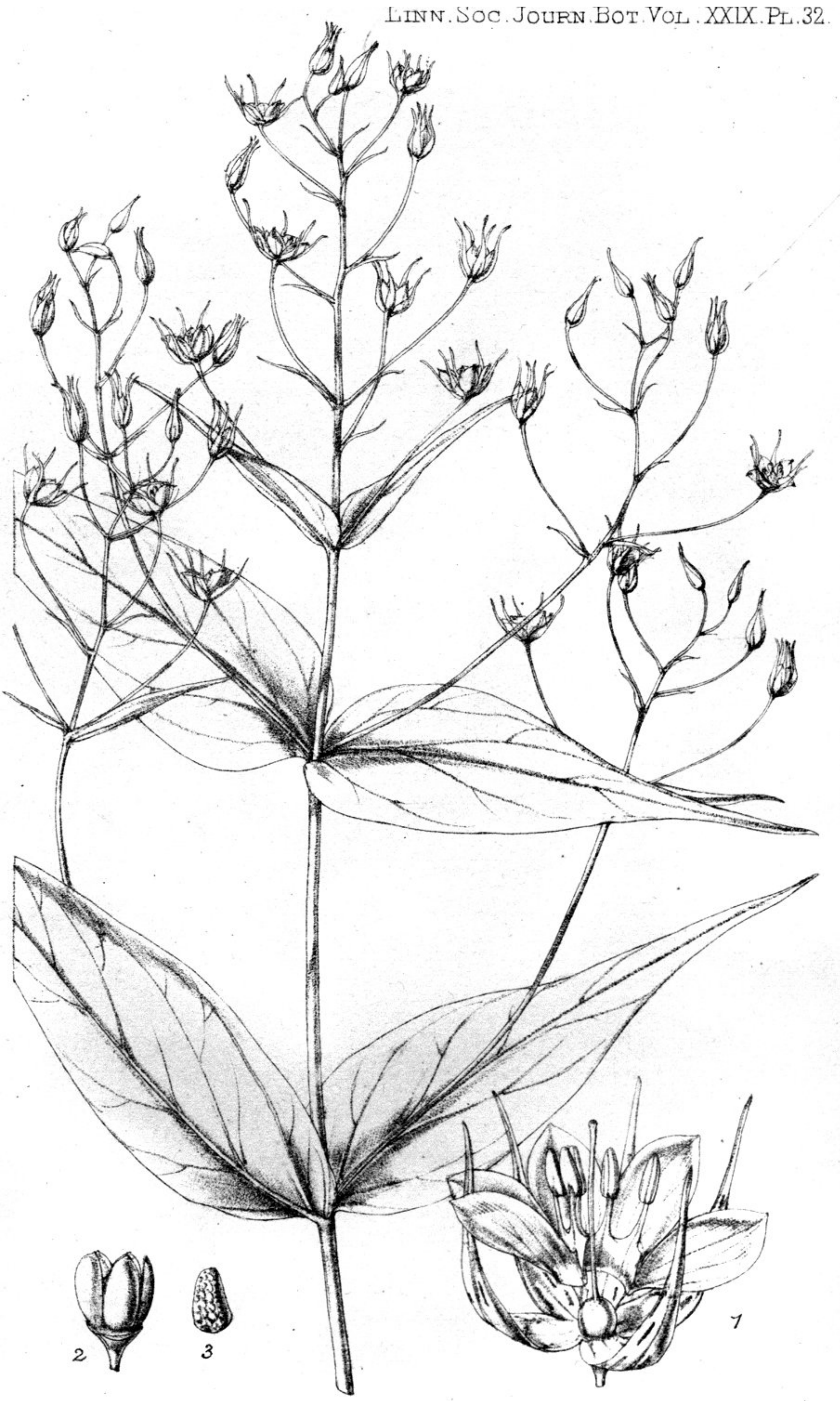


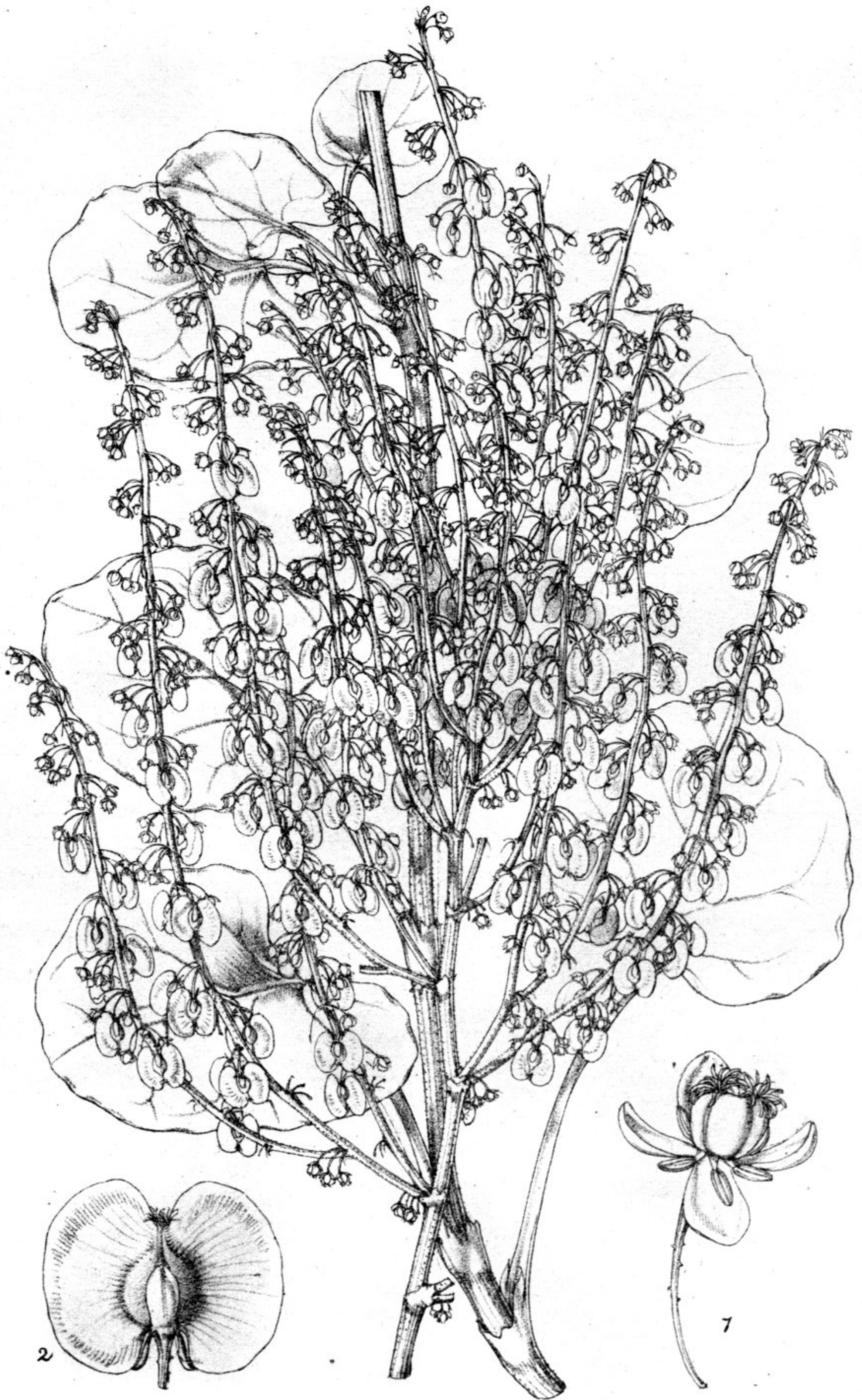
C.H. Fitch del. et lith.

ROSA PRATTII, *Hemsl* ex.

J.N. Fitch imp.







C.H. Fitch del. et lith.

OXYRIA SINENSIS, *Hemsley*.

J.N. Fitch imp.

tenue quam spatha paullo brevior substipitata basi abrupte annulato-incrassata apice e fauce usque ad tubæ medium decurva.

Pratt, 841.

This is the smallest species in the genus at present known, and is easily recognized by its small size and by the middle leaflet being much smaller than the side leaflets.

1561 *Arisæma pictum*, *N. E. Brown*.

Tubere depresso-globoso, $1\frac{1}{2}$ poll. diam.; folii solitarii petiolo $1\frac{1}{2}$ –2 ped. longo viridi vittis brevibus confluentibus purpureis e basi ad apicem pulchre picto, lamina trisecta, segmentis lateralibus sessilibus $5\frac{1}{2}$ –9 poll. longis, 2–4 poll. latis oblique ovatis attenuato-acuminatis basi obtusissime rotundatis vel fere subtruncatis, intermedio longe stipitato (stipite $1\frac{1}{2}$ – $2\frac{1}{4}$ poll. longo) late elliptico 4–7 poll. longo $2\frac{1}{2}$ –4 poll. lato acuminato basi subtruncato; scapo petiolo brevior 14–18 poll. longo purpureo variegato; spathæ tubo $1\frac{3}{4}$ – $2\frac{1}{4}$ poll. longo cylindrico, lamina ovato-lanceolata longe caudata 4–5 poll. longa purpurea vittata?; spadice unisexuali 2– $2\frac{3}{4}$ poll. longo, spathæ tubo raro excedens, appendice stipitata inferne incrassata truncata superne leviter clavata obtusa.

Pratt, 61.

Besides the character of its inflorescence this may be recognized from all hitherto described species by the middle leaflet having a long stalk whilst the lateral leaflets are sessile.

858 *Adiantum Prattii*, *J. G. Baker*.

Rhizoma gracile, late repens, stipitibus nudis semipedalibus. *Fronde* deltoideæ, tripinnatæ, glabræ, 5–6 poll. longæ et latæ; pinnæ infimæ maximæ, latere inferiore valde producto; segmenta ultima 2–4 lineas lata, dimidio superiore rotundato sterili inciso, dimidio inferiore cuneato, lateralia brevissime petiolulata. *Sori* sæpissime solitarii; indusium glabrum, oblongum, persistens, $1\frac{1}{2}$ –2 lineas longum.

Pratt, without number.

Allied to *A. monochlamys* and *A. venustum*.

EXPLANATION OF THE PLATES.

PLATE XXIX.

A plant of *Braya sinensis*, Hemsl., natural size.

Fig. 1, a flower; 2, the same with the sepals and petals removed; 3, ovary in cross section; 4, ditto in vertical section: all enlarged.

PLATE XXX.

A branch of *Rosa Pratii*, Hemsl., natural size.

Fig. 1, section of a flower ; 2, a carpel : both enlarged.

PLATE XXXI.

A branch of *Lysimachia involucrata*, Hemsl., natural size.

Fig. 1, portion of a leaf ; 2, a flower laid open : both enlarged.

PLATE XXXII.

A branch of *Lysimachia longipes*, Hemsl., natural size.

Fig. 1, a flower laid open ; 2, a capsule opened ; 3, a seed : all enlarged.

PLATE XXXIII.

Portions of a plant of *Oxyria sinensis*, Hemsl., natural size.

Fig. 1, a flower ; 2, a fruit : both enlarged.

LICHENES EPIPHYLLI SPRUCEANI, a cl. SPRUCE in regione Rio Negro lecti, additis illis a cl. TRAIL in regione superiore Amazonum lectis, ex hb. Kewensi recenter missi, quos exponit Dr. J. MUELLER. (Communicated by W. T. THISELTON DYER, F.R.S., F.L.S., &c.)

[Read 5th May, 1892.]

Trib. PANNARIÆ.

1. COCCOCARPIA ÆRUGINOSA, *Muell. Arg. Revis. Lich. Fééanor.* p. 16 ; ad folia Palmarum minorum, Montana de Javita in regione Rio Negro, *Spruce*, n. 631.

2. COCCOCARPIA TENUISSIMA, *Muell. Arg. in Flora*, 1883, p. 354 ; in foliis Dicotyledon. ad San Gabriel, *Spruce*, n. 486.

Trib. LECANOREÆ.

3. LECANIA BICOLOR, *Muell. Arg.* ; thallus glauco-albidus, maculari tenuis, continuus, granulis flavescenti-albidis tantum circ. $\frac{1}{10}$ mm. latis paullo irregulariter hemisphæricis dense sparsis ornatus, demum facile evanescens aut tantum granulis repræsentatus ; apothecia circ. $\frac{1}{3}$ mm. lata, plana, crassiuscula, persistenter